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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,427	07/07/2003	Michael Moser	11403/35	7485

26646 7590 02/24/2005

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NEW YORK, NY 10004

EXAMINER

LOUIS JACQUES, JACQUES H

ART UNIT	PAPER NUMBER
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3661

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/615,427

Applicant(s)

MOSER ET AL.

Examiner

Jacques H Louis-Jacques

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 8,9,13 and 14 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-7 is/are allowed.
- 6) ☒ Claim(s) 1 and 10-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuroda et al [5,675,518] in view of Yoshikawa et al [6,480,787].

Kuroda et al discloses an inter-vehicle distance measurement apparatus and method for automotive, wherein an inter-vehicle distance between a host vehicle and a vehicle in front is determined using inertial sensors mounted at the vehicles (e.g., inter-vehicle distance measuring apparatus). See figure 2, column 1. Kuroda et al also discloses an inter-vehicle distance difference by comparing a plurality of inter-vehicle distances between the two vehicles to determine whether there is an error (column 2). See also column 3-5. In column 6, Kuroda et al discloses that GPS measurements may be used to determine if there is an error in the inter-vehicle distance determination, thus an inter-vehicle distance is obtained using GPS. As shown in figures 17 and 18 and described in column 9, Kuroda uses signals from outside of the vehicle, i.e., signals from a GPS. Based on the GPS signals or measurements, inter-vehicle distance is corrected. However, Kuroda et al does not particular disclose that the GPS signals (measurements) are obtained at both vehicles. Yoshikawa et al, on the other hand, discloses a GPS receiving system a first moving object A and a second moving object B, wherein both moving

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objects (A and B) comprise a GPS receiver (1A and 1B) for receiving GPS signals. See figure 1. Based on the received GPS signals or measurements, a relative navigation unit (7) determines relative position, relative velocity, thus a relative distance. See also figures 5-12. Yoshikawa et al discloses that both the preceding vehicle and the following vehicle comprise a GPS receiver unit (12, 22). See figure 13 and columns 1-2. Additionally, Yoshikawa et al discloses receiving GPS signal and determining GPS pseudo range of the vehicle. Yoshikawa et al discloses a processor for determining the inter-vehicle distance between the vehicles based on the pseudo range of the vehicle and GPS measurements. See figures 7-10. The communication unit of both Kuroda et al and Yoshikawa et al is wireless, in that it receives and sending wave signals when the vehicles at close proximity, e.g., 10 km. Thus, it would have been obvious to one skilled in the art at the time of the invention to modify the inter-vehicle distance measurement apparatus of Kuroda et al by incorporating the GPS measurements at both vehicles from the GPS receiving system of Yoshikawa et al because such modification would provide a highly accurate measurement of the relative (inter-vehicle) distance between the two vehicles.

Allowable Subject Matter

3. Claims 2-7 are allowed over the prior art of record.

Response to Amendments & Arguments

4. The amendments along with the arguments filed therewith on November 24, 2004 have been entered and carefully considered by the examiner.

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Applicant has amended claims 2 and 4. Claims 8-9 and 13-14 were withdrawn from consideration. Claims 1-7 and 10-12 are currently under examination. Amended claims 2 and 4 and claims 5-7 are allowed.

Regarding the rejection of claims 1-3 and 10-12, Applicant argued that “the examiner alleges that Kuroda discloses the use of GPS measurements to obtain an inter-vehicle distance.” Applicant also argued that Kuroda does not disclose “determining a first inter-vehicle distance between the moving vehicle and a second vehicle based on GPS measurements obtained at both vehicles.” According to Applicant, “there is no disclosure of either: a) receiving GPS signals at more than one vehicle; or, more significantly, b) taking GPS measurements.” Applicant then asserted that “Kuroda does not disclose or suggest determining distances from GPS signal, but rather, only discloses using the 1.575 GHz signal from GPS satellites as a reference frequency.”

However, Applicant failed to appreciate the embodiment shown in figures 17 and 18 and described in column 9. Kuroda uses signals from outside of the vehicle, i.e., signals from a GPS. Based on the GPS signals or measurements, inter-vehicle distance is corrected.

Notwithstanding, however, Applicant’s argument regarding the use of GPS at both vehicles, the patent to Yoshikawa et al [6,480,787] has been introduced for disclosing such feature.

As shown in figure 1, Yoshikawa et al discloses a first moving object A and a second moving object B, wherein both moving objects (A and B) comprise a GPS receiver (1A and 1B) for receiving GPS signals. Based on the received GPS signals or measurements, a relative navigation unit (7) determines relative position, relative velocity, thus a relative

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distance. See also figures 5-12. In particular, even in referring to the prior art, Yoshikawa et al discloses that both the preceding vehicle and the following vehicle comprise a GPS receiver unit (12, 22). See figure 13 and columns 1-2.

In light of the above, claims 1 and 10 are rejected. Claim 3 is allowable because the prior art does not disclose the claimed features of generating test series data at each vehicle for each pair of vehicles receiving GPS signal, wherein the test series data for each pair comprises a difference between a first inter-vehicle distance between the pair of vehicles calculated based on the GPS data and a second inter-vehicle distance independently calculated based on INS sensors in each of the pair of vehicles.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

4,743,913	Takai	May 1988
6,029,496	Kreft	Feb. 2000
JP08086853A	Yoshida et al	Apr. 1996
JP10002743A	Otomo et al	Jan. 1998

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacques H Louis-Jacques whose telephone number is 703-305-9757. The examiner can normally be reached on M-Th 6:30 AM to 5:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on 703-305-8233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jacques H Louis-Jacques
Primary Examiner
Art Unit 3661

/jlj

Jacques H. Louis-Jacques
JACQUES H. LOUIS-JACQUES
PRIMARY EXAMINER